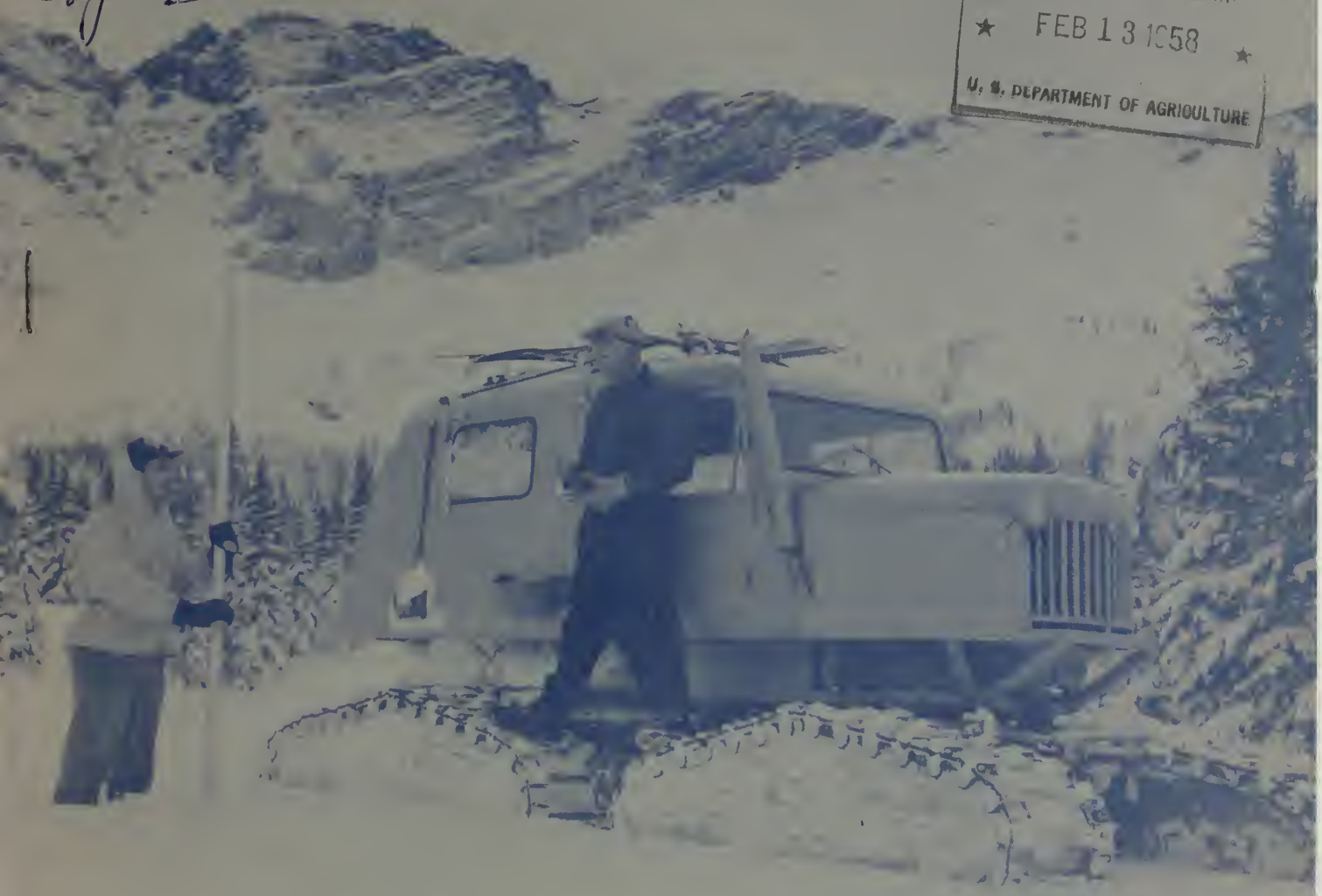

FEDERAL - STATE - PRIVATE COOPERATIVE

SNOW SURVEY and WATER SUPPLY FORECASTS

for

NEVADA

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

NEVADA STATE ENGINEER

Data included in this report were obtained by the agencies named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

AS OF

FEB. 1, 1958

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1300 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	COOPERATING WITH	LOCATION
RIVER BASINS			
COLORADO, RIO GRANDE AND PLATTE-ARKANSAS	MONTHLY (FEB.-MAY)	COLO. EXP. STATION	FT. COLLINS, COLO.
COLUMBIA *Includes Alaska*	MONTHLY (JAN.-MAY)		BOISE, IDAHO
UPPER MISSOURI	MONTHLY (FEB.-MAY)	MONT. AGR. EXP. STATION	BOZEMAN, MONTANA
WEST-WIDE	SEMI-ANNUALLY (OCT. 1 AND APR. 1)	COOPERATORS	PORTLAND, OREGON
STATES			
ARIZONA	SEMI-MONTHLY (JAN. 15-APR. 1)	SALT R. VALLEY WATER USERS ASSOCIATION	PHOENIX, ARIZONA
NEVADA	MONTHLY (FEB.-APR.)	NEVADA STATE ENGINEER	RENO, NEVADA
OREGON	MONTHLY (JAN.-MAY)	ORE. AGR. EXP. STATION	PORTLAND, OREGON
UTAH	MONTHLY (JAN.-MAY)	UTAH STATE ENGINEER UTAH AGR. EXP. STATION	SALT LAKE CITY, UTAH
WASHINGTON	MONTHLY (FEB.-MAY)	WASH. STATE DEPT. OF CONSERVATION AND DEVELOPMENT	SPOKANE, WASHINGTON
WYOMING	MONTHLY (FEB.-JUNE)	WYOMING STATE ENGINEER	CASPER, WYOMING

Copies of the various reports may be secured from: Head, Water Supply Forecasting Section
Soil Conservation Service
209 S.W. 5th Avenue, Portland 4, Oregon

PUBLISHED BY OTHER AGENCIES

OTHER SNOW SURVEY REPORTS			
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	COMPTROLLER, WATER RIGHTS BR., DEPT. OF LANDS AND FORESTS, PARLIAMENT BLDGS.	VICTORIA, B.C.
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIFORNIA DEPARTMENT OF WATER RESOURCES	SACRAMENTO, CALIFORNIA

FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND WATER SUPPLY FORECASTS

For

N E V A D A

Report Prepared
By

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Department of Conservation
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Carson City, Nevada

February 7, 1958

WATER SUPPLY OUTLOOK FOR NEVADA

February 1, 1958

* *
* Snow stored water in the mountain watersheds of *
* Nevada ranges from "excellent" in northern Nevada *
* on the Humboldt to "good" in the Sierra Mountains *
* on the Truckee, Tahoe, Carson and Walker water- *
* sheds. Soil moisture conditions are "fair." *
* Existing reservoir storage coupled with present *
* mountain snowpack assures adequate irrigation *
* season water for users of stored water. *
* *

Snow surveys made in northern Nevada on the Owyhee and Snake River watershed indicate snow stored water to be about 110 percent of the February 1, 1938-52 15 year average. Water content of the snow at all courses measured is significantly higher than one year ago.

On the Humboldt River, snow surveys on the northern tributary streams indicate snow stored water to be about 110 percent of the February 1 average. Mountain soil moisture conditions can be rated only as fair because of the dry fall months. Some of this above average snow water will be used in saturating soils before runoff occurs. Snow surveys made in Lamoille Canyon south of Elko in the Ruby Mountains, indicate snow stored water to be about 115 percent of the February 1, 1938-52 average.

In the Lower Humboldt watershed, two courses were measured in the Santa Rosa Mountains above Paradise Valley. Lack of past February 1 snow survey records prevents accurate comparisons but this year's measurements are better than last year (1957) but not as high as 1956. Precipitation at Paradise Valley from October through January is 136 percent of the 15 year average for that period.

In southeastern Nevada, the snow courses at Pine and Mathew Canyon on Clover Creek, tributary to Meadow Valley Wash, were bare of snow. Higher mountains appear to have good snow cover and recent winter rains have saturated the soil mantle.

In the Sierra Mountains, most snow surveys were taken before the weekend storms. Conditions at that time on the Truckee River watershed indicated snow stored water to be about 90 percent of the February 1, 1938-52 15 year average. On January 31, the elevation of Lake Tahoe was 6227.38 feet above sea level. Snow surveys made before the storms on Lake Tahoe watershed measured 85 percent of the February 1 average.

Moving south along the eastern slope of the Sierra Mountains, Carson Pass snow course measured 21.0 inches of water or normal as of this date. In the Walker River watershed, lack of past February 1 record makes comparison difficult but snow stored water appears to be about 80 to 90 percent of the February 1 average.

The U. S. Geological Survey reports that streamflow during January on the Humboldt River at Palisade was 5,990 acre feet or about 139 percent of median while the West Walker at Coleville was 2,610 acre feet or 91 percent of median.

State-wide reservoir storage is good. Seven important reservoirs stored 850,000 acre feet which is 62 percent of available capacity or 111 percent of the February 1, 1938-52 15 year average. Rye Patch Reservoir on the Humboldt River stored 69,940 acre feet or 86 percent of the February 1 average. Storage in Lake Mead is 102 percent of the February 1 average. This is an increase of about 3,000,000 acre feet over storage last year at this time.

STATUS OF RESERVOIR STORAGE

FEBRUARY 1, 1958

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 AF)	USABLE STORAGE - 1000 ACRE FEET			
			1958	1957	1956	FEBRUARY 1 15-YR. AVE. 1938-52
Owyhee	Wild Horse	33	27	19	3	11
Lower Humboldt	Rye Patch	179	70	38	10	82
Colorado	Mohave	1,810	1,541	1,670	1,645	New Reservoir*
Colorado	Mead	27,217	20,013	11,768	11,231	19,082
Tahoe	Tahoe	732	526	560	524	412
Truckee	Boca	41	4	4	17	12
Carson	Lahontan	286	178	195	209	188
West Walker	Topaz	59	24	49	37	35
East Walker	Bridgeport	42	24	35	34	30

* Storage began in 1950. The 1950-57 average is 1,427,000 acre feet.

NEVADA SNOW SURVEYS FEBRUARY 1, 1958

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	SNOW COVER MEASUREMENTS 1958 Date of Survey	1958 Snow Depth (In.)	1958 Water Content (In.)	Past Record Water Content (In.) 1957	1956	1938-52 Avg.	Prior Yrs. of Record
SNAKE RIVER									
Bear Creek	15H1	7800	1/28	47	12.1	12.5	18.0	-	3
*Big Bend	15H4	6700	1/30	38	8.5	4.1	11.2	10.4	10
Fox Creek	15H2	6800	1/30	33	8.0	4.7	6.3	-	3
Goat Creek	15H13	8800	1/31	47	12.4	10.3	19.2	-	3
*Gold Creek	15H5	6600	1/30	31	7.2	2.9	6.8	6.0	9
Hummingbird Springs	15H15	8945	1/31	57	14.3	12.8	20.8	-	3
Pole Creek R.S.	15H14	8330	1/31	46	13.0	11.3	15.3	-	3
76 Creek	15H3	7100	1/29	44	10.4	4.9	13.2	-	3
OWYHEE RIVER									
*Bear Creek	15H1	7800	1/28	47	12.1	12.5	18.0	-	3
Big Bend	15H4	6700	1/30	38	8.5	4.1	11.2	10.4	10
*Fox Creek	15H2	6800	1/30	33	8.0	4.7	6.3	-	3
Fry Canyon	15H7	6700	1/30	37	9.7	3.5	7.8	8.5	8
Gold Creek	15H5	6600	1/30	31	7.2	2.9	6.8	6.0	9
*Granite Peak	17H4	6700	1/31	38	11.6	9.9	15.8	-	2
Lower Jack Cr.	16H1	6800	1/31	28	6.7	2.8	3.2	-	2
*Martin Creek	17H3	6700	1/31	26	6.8	4.2	10.0	-	2
*Rodeo Flat	15H6	6800	1/30	38	10.6	3.9	7.0	8.8	8
*76 Creek	15H3	7100	1/29	44	10.4	4.9	13.2	-	3
Taylor Canyon	15H9	6200	1/31	20	5.2	1.8	7.9	-	2
*Tremewan Ranch	15H8	5700	1/31	10	2.1	0.8	2.9	-	3
Upper Jack Cr.	16H2	7250	1/31	44	11.2	6.9	7.5	-	2
UPPER HUMBOLDT RIVER									
*Bear Creek	15H1	7800	1/28	47	12.1	12.5	18.0	-	3
*Big Bend	15H4	6700	1/30	38	8.5	4.1	11.2	10.4	10
*Fox Creek	15H2	6800	1/30	33	8.0	4.7	6.3	-	3
Fry Canyon	15H7	6700	1/30	37	9.7	3.5	7.8	8.5	8
*Gold Creek	15H5	6600	1/30	31	7.2	2.9	6.8	6.0	9
Lamoille #1	15J4	7100	2/4	36	9.2	6.0	11.3	5.1	13
Lamoille #2	15J5	7200	2/4	34	9.3	4.7	8.9	-	5
Lamoille #3	15J6	7700	2/4	40	10.3	7.0	12.7	-	5
Lamoille #4	15J7	8000	2/4	51	14.7	11.3	19.6	-	5
Lamoille #5	15J8	8700	2/4	70	23.2	15.3	32.8	-	5
*Lower Jack Cr.	16H1	6800	1/31	28	6.7	2.8	3.2	-	2
Rodeo Flat	15H6	6800	1/30	38	10.6	3.9	7.0	8.8	8
*76 Creek	15H3	7100	1/29	44	10.4	4.9	13.2	-	3
*Taylor Canyon	15H9	6200	1/31	20	5.2	1.8	7.9	-	2
Tremewan Ranch	15H8	5700	1/31	10	2.1	0.8	2.9	-	2
*Upper Jack Cr.	16H2	7250	1/31	44	11.2	6.9	7.5	-	2
LOWER HUMBOLDT RIVER									
Granite Peak	17H4	7800	1/31	38	11.6	9.9	15.8	-	2
Martin Creek	17H3	6700	1/31	26	6.8	4.2	10.0	-	2

* Located on adjacent drainage

NEVADA SNOW SURVEYS FEBRUARY 1, 1958

DRAINAGE BASIN and SNOW COURSE	No.	Elev.	SNOW COVER MEASUREMENTS 1958 Date of Survey	1958 Snow Depth (In.)	1958 Water Content (In.)	Past Record Water Content (In.) 1957	1956	1938-52 Avg.	Prior Yrs. of Record
LOWER COLORADO RIVER									
Mathew Canyon	14M1	6000	2/1	0	0	6.3	0	2.8	9
Pine Canyon	14M2	6200	2/2	0	0	6.3	0	3.3	9
TAHOE									
Daggetts Pass	19L14	7350	1/30	32	7.9	6.2	11.8	9.2	11
Echo Summitt	20L5	7500	1/31	75	20.0	19.3	50.9	25.9**	16
Glenbrook #2	19K6	6900	1/30	41	7.9	5.8	-	11.7	5
Marlette Lake	19K4	8000	2/3	62	15.7	9.7	29.1	14.1**	17
Richardsons #2	20L3	6500	1/30	53	13.0	11.1	16.5	17.6	8
Tahoe City	20K16	6250	1/29	32	9.1	8.6	10.5	9.4	23
Ward Creek	20K17	7000	1/29	78	24.9	20.9	51.6	29.8	10
TRUCKEE RIVER									
Boca #2	20K14	5900	2/4	34	9.0	5.3	10.1	7.4	10
Donner Lake	20K11	5950	2/4	63	16.9	12.6	-	17.4	9
*Donner Summitt	20K10	6900	1/27	72	20.0	15.4	44.3	23.2	36
*Fordyce Lake	20K7	6500	Report Delayed			17.4	40.1	21.3**	30
*Furnace Flat	20K8	6600	Report Delayed			22.4	50.3	24.1**	31
Sage Hen Creek	20K6	6500	1/28	41	10.1	11.0	22.1	15.0	14
*Soda Springs	20K9	6750	1/27	66	19.3	16.2	47.7	21.6	28
Tahoe City	20K16	6250	1/29	32	9.1	8.6	10.5	9.4**	23
Truckee #2	20K13	6400	1/28	35	9.1	9.0	-	10.4	8
*Ward Creek	20K17	7000	1/29	78	24.9	20.9	51.6	29.8	10
Independence Camp	20K4	7000	1/28	47	12.6	-	-	-	4
CARSON RIVER									
Carson Pass	19L4	8600	1/31	67	21.0	16.9	42.5	20.9	27
WALKER RIVER									
Sonora Pass	19L7	8800	1/31	51	14.2	8.8	35.9	-	4
Tioga Pass	19M1	9900	1/29	46	13.0	8.4	55.0	19.4	9
Virginia Lakes	19L13	9500	1/31	38	9.2	7.8	31.6	-	4
NORTHERN GREAT BASIN (Surprise Valley)									
Hays Canyon	19H2	6400	1/30	8	1.8	New Course			
49 Mountain	19H3	6000	1/30	18	3.8	New Course			
Reservation Crk.	20H1	5900	1/31	36	11.1	New Course			
Barber Creek	20H2	6500	1/31	36	9.9	New Course			

* Located on adjacent drainage

** Average is for less than 15 years of record in the 1938-52 period

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Soil Conservation Service
- Forest Service
- Geological Survey
- Bureau of Reclamation
- Fish and Wildlife Service
- Army
- Navy
- Weather Bureau
- Agricultural Research Service

STATE

- Department of Conservation and Natural Resources
- Nevada State Forester-Firewarden
- Nevada Cooperative Snow Surveys
- Colorado River Commission of Nevada
- California Cooperative Snow Surveys
- California Department of Water Resources
- Oregon Cooperative Snow Surveys

PRIVATE

- Walker River Irrigation District
- Amalgamated Sugar Company
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Virginia City Water Company
- Kennecott Copper Corporation
- Squaw Valley Development Company
- Pacific Gas & Electric Company
- Nevada Irrigation District
- Sierra Pacific Power Company
- Washoe County Water Conservation District
- Truckee-Carson Irrigation District
- Pershing County Water Conservation District

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

Federal - State - Private

COOPERATIVE SNOW SURVEYS

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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"